

**PROCESS AND DEVICE FOR PRODUCING A LAYER OF TANTALUM
PENTOXIDE ON A CARRIER MATERIAL, IN PARTICULAR TITANIUM
NITRIDE, AND INTEGRATED CIRCUIT INCORPORATING A LAYER OF
TANTALUM PENTOXIDE**

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ABSTRACT

- Carrier material (PL) is heated (MCH) to a heating temperature of
- 10 between 200°C and 400°C and a gas mixture (MG) including tert-butyliminotris (diethylamino) tantalum ($t\text{-BuN=Ta(NEt}_2)_3$) is circulated in contact with the heated carrier material under an oxidizing atmosphere thereby forming a layer of tantalum pentoxide (Ta_2O_5) on the carrier material.
- The partial pressure of the tert-butyliminotris (diethylamino) tantalum is
- 15 preferably greater than or equal to 25 mTorr.